

# **An Intercultural Study in Health Literacy and Adherence among Patients with Diabetes**

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## **Abstract**

Health Literacy is believed to play an essential role in the ability of individuals to effectively manage their own health care. A report by the Institute of Medicine acknowledges that 90 million Americans with low literacy probably also have low health literacy, and that even individuals with adequate health literacy face challenges in the complex demands of health care contexts.

This poster presents results of a 3-year study of an interdisciplinary project on health literacy and adherence at the Indiana Center for Intercultural Communication (ICIC) funded by the Eli Lilly & Co. Foundation. The purpose was to examine multiple dimensions of health literacy, based on patients' perspectives (van Dulmen et al., 2008), with the goal of creating a new conceptualization and way of assessing health literacy in its broader sense that includes processing and acting on information in order to integrate those findings into interventions to improve health regimen adherence. Taking critical studies into account, we developed a model to identify the most important variables of adherence (Nutbeam, D., 2000; Levin-Zamir, D. and Peterburg, Y., 2001; Von Wagner, C., Steptoe, A., Wolf, M., and Wardle, J., 2008).

The data consisted of video-taped interviews with 43 English-speakers and 21 Spanish-speakers, all of whom have diabetes. The interviews involved open-ended questions that elicited information about living with diabetes as well as questions on health beliefs, medication adherence, information sources and uses, literacy level and basic demographic information. These narratives were analyzed using grounded theory methodology *of the patients' own words*. The quantitative data were analyzed using a multivariate analysis as well as an ordered probit analysis (Connor, U., et al., 2008, 2009, 2010; Lauten, K., et al., 2009, 2010; Lopez-Yunez, A., et al., 2009; Matthias, M.S. & Goering, E., 2008; Rozycki, W. & Connor, U., 2008; Wolf, M.S., et al, 2007).

The model that ICIC has built provides practical interventions for patient-centered care. This poster presents examples of linguistic cues and phrases from the interviews, the results of the intercultural comparisons between which information sources were used in the English-speaking and Spanish-speaking subgroups, and the resultant model. Implications are discussed in terms of enhancing the patient-centered tailoring of health information and communication.



## ***Health Literacy and Adherence in Diabetes Study***

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### ***Related Presentations include:***

- Lauten, K. (2010, April). *Health literacy: A call to action*. Invited address at the Indiana Joint National Public Health Week Conference 2010, Indianapolis, IN.
- Connor, U., & Cortes, V. (2010, March). *A corpus linguistic analysis of diabetes patients' health beliefs and actions*. Paper presented at the American Association for Applied Linguistics Conference, Atlanta, GA.
- Connor, U., & Lauten, K. (2009, October). *Translating health literacy and adherence research into patient-centered programs*. Invited address at Eye for Pharma Patient Adherence and Engagement Summit, Philadelphia, PA.
- Lauten, K., Connor, U., Antón, M., Balunda, S., Belz, J., Goering, E., Hayat, A., Roach, P., & Wolf, J. (2009, October). *PLAIN Health Indicators from an intercultural study in health literacy*. Paper presented at the International Conference on Communication in Healthcare, Miami, FL.
- Lauten, K., Connor, U., Antón, M., Balunda, S., Belz, J., Goering, E., Hayat, A., Roach, P., & Wolf, J. (2009, October). *Adherence intervention -- applied research*. Poster presented at the International Conference on Communication in Healthcare, Miami, FL.
- Connor, U., Antón, M., Balunda, S., Belz, J., Goering, E., Hayat, A., Lauten, K., Roach, P., & Wolf, J. (2009, June). *Working toward a new model of health literacy*. Paper presented at the Communication, Medicine, & Ethics conference (COMET), Cardiff, Wales.
- Connor, U., Belz, J., & Lauten, K. (2009, March). *Disease, bodies and adherence through patients' own voices*. Paper presented at the American Association for Applied Linguistics Conference, Denver, CO.
- Connor, U. (2009, March). *Changing needs in health communication to reach underserved populations*. Presented at the 10th Anniversary of ICIC Symposium "Language in health care: future views", Indianapolis, IN.
- López-Yunez, A., Antón, M., Balunda, S., Belz, J., Connor, U., Goering, E., Hayat, A., Lauten, K., Roach, P., & Wolf, J. (2009, March). *Intercultural negotiation and health literacy*. Paper presented at 13th Annual Conference of the National Hispanic Medical Association, Brooklyn, NY.
- Matthias, M.S. & Goering, B. (2008, November). "Coping with Chronic Illness: Information Use and Treatment Adherence Among Diabetics." Paper presented at the 94th Annual Convention of the National Communication Association, San Diego, CA.
- Rozycki, W., & Connor, U. (2008, November). *Training postdoctoral researchers: A model for professional development*. Paper presented at the IEEE Professional Communication Society (Japan Chapter) Annual Seminar at Waseda University, Tokyo, Japan.
- Connor, U., Belz, J., Goering, E., Lauten, K., Rozycki, W., Roach, P., & Wolf, J. (2008, September). *Medication adherence: Patients' own voices*. Paper presented at the International Conference on Communication in Healthcare, Oslo, Norway.
- Connor, U., & Rozycki, W. (2008, June). *Intercultural study of health literacy and medication adherence*. Paper presented at the Fourth Conference on Intercultural Rhetoric and Discourse, IUPUI, Indianapolis, IN.
- Connor, U., & Lopez-Yunez, A. (2008, March). *Intercultural negotiation and health literacy*. Paper presented at the American Association for Applied Linguistics Conference, Washington, D.C.
- Connor, U., & Rozycki, W. (2007, October). *Health literacy and disease knowledge. Preliminary findings from interviews with diabetes patients*. Paper presented at the International Conference on Communication in Healthcare, Charleston, SC.

- Connor, U., Goering, E., Hamilton, H., & Mac Neill, R. (2007, June). *Exploring health literacies in relation to prescription medication*. Paper presented at the Fifth Interdisciplinary Conference on Communication, Medicine, & Ethics (COMET), University of Lugano, Switzerland.
- Connor, U., Rozycki, W., & Ruiz Garrido, M. (2006, June). *Intercultural study of health literacy and medicine labels*. Paper presented at the Fourth Interdisciplinary Conference on Communication, Medicine & Ethics (COMET), Cardiff University, Wales. (This is a related presentation.)
- Connor, U., Rozycki, W., & Ruiz Garrido, M. (2006, June). *Intercultural study of health literacy and medicine labels*. Paper presented at the Joint Conference of the AAAL and ACLA/CAAL, Montreal, Canada. (This is related presentation.)

***Future presentations include:***

- Lauten, K., Connor, U., Antón, M., Balunda, S., Goering, E., Hayat, A., & Roach, P. (2010, September). *Patient-centered tailoring of self-management tools*. Paper to be presented at the International Conference on Communication in Healthcare, Verona, Italy.
- Connor, U., Antón, M., Balunda, S., Goering, E., Hayat, A., Lauten, K., & Roach, P. (2010, June). Paper to be presented at the Communication, Medicine, & Ethics conference (COMET), Boston, MA.
- Lauten, K., Connor, U., Antón, M., Balunda, S., Goering, E., Hayat, A., & Roach, P. (2010, May). *Health literacy and medication adherence in diabetes*. Poster to be presented at the Institute for Healthcare Advancement's Ninth Annual Health Literacy Conference, Irvine, CA.
- Connor, U., Antón, M., Balunda, S., Goering, E., Hayat, A., Lauten, K., & Roach, P. (2010, April). *Listening to patients' voices: Linguistic indicators of diabetes self-management*. Paper to be presented at Kentucky Conference on Health Communication, Lexington, KY.

***Related publications include:***

- Connor, U., Goering, B., Matthias, M., & Mac Neill, R. (in press). Information use and treatment adherence among patients with diabetes. In M. Ruiz-Garrido, J. Palmer-Silveira, & I. Fortanet-Gomez (Eds.), *English for professional and academic purposes*. Amsterdam/New York: Rodopi.
- Connor, U., Rozycki, W., Ruiz, M., Goering, B., Koehler, J., & Kinney, E. (2008). Patient-directed medicine labeling: Text differences between the United States and Spain. *Communication & Medicine* 5.2, 117-132.
- Wolf, M.S., Davis, T.C., Shrank, W., Rapp, D.N., Bass, P.F., Connor, U., Clayman, M., & Parker, R.M. (2007). To err is human: Patient misinterpretations of prescription drug label instructions. *Patient Education & Counseling*, 67, 293-300.

***In-progress publications include:***

- Connor, U., Antón, M., Balunda, S., Goering, E., Hayat, A., Lauten, K., & Roach, P. Listening to patients' voices: linguistic indicators of diabetes self-management.
- Connor, U., Antón, M., Balunda, S., Goering, E., Hayat, A., Lauten, K., & Roach, P. Health literacy and patient adherence.
- Connor, U., Antón, M., Balunda, S., Goering, E., Hayat, A., Lauten, K., & Roach, P. Intercultural factors in patient adherence.